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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,239	02/25/2002	Hideaki Shirai	2018-516	2570

7590 07/27/2004  
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EXAMINER

EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/081,239	Applicant(s) SHIRAI ET AL.	
	Examiner Geoffrey S Evans	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-21 is/are pending in the application.  
     4a) Of the above claim(s) 4-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20020225</u> | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A WELDING MACHINE FOR ENERGY WELDING OF CYLINDER MEMBERS".

2. Claims 4-6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 30 March 2004.

3. Claim 21 is objected to because of the following informalities: It does not end with a period. Appropriate correction is required.

4. Claims 7-11, 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how limitations directed to the workpiece (the injector) in claims 7-10 and 13-20 effect the metes and bounds of apparatus (welding machine) claims 1, 2, and 12. Regarding claim 11, it should be noted that it currently depends upon claim 4, which is a non-elected claim. Applicant is respectfully urged to either amend the preamble of claim 11 to replace "the welding machine" with "the injector", in which case claim 11 will be withdrawn as directed to a non-elected invention or to amend claim 11 to depend directly or indirectly upon an independent claim directed to a welding machine. Claim 11 then would be considered indefinite as it is unclear how it effects the scope of the welding machine claims since claim 11 currently only contains limitations directed to the workpiece and not the

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welding machine. Claim 11 is too indefinite to make an art rejection based upon prior art.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Fujita et al. in Japan Patent No. 56-33,187. Fujita et al. discloses a welding machine with energy applying units disposed outside cylinder members at two positions that are in the vertical position and the horizontal position; in other words 90° apart from one another. The limitation in the preamble “for inserting a first cylinder member into a second cylinder member” is only in the preamble and is not necessary to breath life and meaning into the main body of the claim so it is considered merely a statement of intended use and given no patentable weight.

7. Claims 1,2,3,12 are rejected under 35 U.S.C. 102(b) as being anticipated by Merrick et al. in U.S. Patent No. 4,176,269. Regarding claim 1, Merrick et al. discloses laser welding two cylinder members together comprising two energy applying units that are 90° apart from one another (see column 6, lines 12-16). The limitation in the preamble “for inserting a first cylinder member into a second cylinder member” is only in the preamble and is not necessary to breath life and meaning into the main body of the claim so it is considered merely a statement of intended use and given no patentable

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weight. Regarding claim 2, Merrick et al. discloses using four energy-applying units that are 90° apart (see column 6, lines 5-22).

8. Claims 2, 3, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Jegousse et al. in United Kingdom Patent Application No. 2,165,990. Jegousse et al. discloses using six electron beam energy-applying units (elements 50-55) for applying energy to cylinder members that inherently must be 60 degrees apart for the entire circumference of the cylinders to be equally treated. The limitation in the preamble of claim 2 "for inserting a first cylinder member into a second cylinder member" is only in the preamble and is not necessary to breath life and meaning into the main body of the claim so it is considered merely a statement of intended use and given no patentable weight.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. in Japan Patent No. 56-33187 in view of Urushizaki et al. in U.S. Patent No. 6,163,011. Urushizaki et al. teaches a laser seam welding apparatus of the proper size for welding elements of a fuel injection valve. It would have been obvious to adapt Fujita et al. in view of Urushizaki et al. to provide this to properly position the elements of the fuel injection valve. The specific structure of the fuel injector (workpiece) does not impart patentability to the welding apparatus.

12. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jegousse et al. in United Kingdom Patent Application No. 2,165,990 in view of Shirai et al. in Japan Patent document No. 11-104,865 and Shirai et al. in Japan Patent document No. 11-245,065. Shirai et al. (865) teaches the equivalence of laser beam, electron beam and arc for welding a lap portion of a joint (see paragraph 34) and Shirai et al.(065) teaches welding elements the size of fuel injector elements (see paragraph 32). It would have been obvious to adapt Jegousse et al. in view of Shirai et al.(865) and Shirai et al. (065) to provide this to quickly weld the elements of a fuel injector quickly by applying energy to all parts of the weld zone instead of scanning the beam over the circumference of the elements to be welded. The specific structure of the fuel injector (workpiece) does not impart patentability to the welding apparatus.

13. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al. in U.S. Patent Application Publication No. 2002/0056291 A1 in view of Minamida

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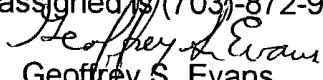
et al. in Japan Patent document No. 10-272,586 and Spooner et al. in U.S. Patent No. 6,403,916 B1. Schultz meets all of the limitations of claim 21 including rotation of the first and second cylinder members (see paragraph 74) except that Schultz only uses a single energy source and a single energy applying unit. Minamida et al. teaches using two energy-applying units to suppress heat strain while laser welding a tube. Spooner et al. teaches using a beam splitter (see column 8, lines 11-15) to split a laser beam from an energy source for laser welding. It would have been obvious to adapt Schulz et al. in view of Minamida to provide this to reduce heat strain.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oji et al. in U.S. Patent No. 5,718,036 in column 18, line 53 teaches using a spectroscope for laser beam splitting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571)-272-1171. The fax phone number for the organization where this application or proceeding is assigned is (703)-872-9306.

GSE

  
Geoffrey S. Evans  
Primary Examiner  
Group 1700